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Detection of Cocaine Use: Extraction of Benzoylecgonine by $CO(SCN)_4^{2-}$

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Poster Presentation 29

DETECTION OF COCAINE USE: EXTRACTION OF BENZOYLECGONINE BY $CO(SCN)_4^{2-}$

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Development of a method for the detection of benzoylecgonine (BE), the main metabolite of cocaine, is attempted here. An ion-pairing agent ($Co(SCN)_4^{2-}$) is employed to extract the BE from aqueous solution into dichloromethane. The extract can then be analyzed by HPLC. This method, if successful, promises to have many advantages over current testing methods in that it would be rapid, cheaper, and more efficient. The main obstacle encountered in developing the extraction procedure was repeatability. Studies were performed on the extraction conditions, including stability of the ion pairing solution, purity of the dichloromethane, and potential carryover of BE in the separatory funnels from extraction to extraction. The optimum pH was determined to be 7.0, which differs from previous studies. Linearity of absorbance v. concentration, however, was still not achieved. Continued studies of extraction conditions and, ultimately, an adaptation of an HPLC method remain for future work.